

**IN THE SPECIFICATION:**

Please amend the subject specification as follows:

Please insert the attached Sequence Listing at the end of the subject specification.

At pages 30-35, please delete Tables 1-6 and 8-9 and substitute therefor:

Table 1: Sequences and activities of lib1 A clones selected on 10  $\mu$ g ampicillin/ml at 37°C

Clones		Inserted sequence	Kcat ( $s^{-1}$ ) <sup>a</sup>
FdBla	Val <sub>103</sub>	--- Glu <sub>104</sub> Tyr <sub>105</sub> Ser <sub>106</sub>	ND
Lib1A-01		--- Val Ser	29
Lib1A-02		--- Leu His Ser	16
Lib1A-03		Lys Ala Gly Ser Asp Gly (SEQ ID NO: 1)	70
Lib1A-04		Gly Gly Pro Arg Ser Trp (SEQ ID NO: 2)	15
Lib1A-05		Lys Asn Cys Gly Lys Cys (SEQ ID NO: 3)	12
Lib1A-06		Asp Val Pro Gly Ala Gly (SEQ ID NO: 4)	47
Lib1A-07		Lys Ser Gly Glu His Ser (SEQ ID NO: 5)	145
Lib1A-08		--- Pro Gly Gly	74
Lib1A-09		Arg Ala Gly Asn His Ser (SEQ ID NO: 6)	265
Lib1A-10		Asp Pro Pro Gly Tyr Gly (SEQ ID NO: 7)	9

<sup>a</sup> kcats from phages produced at 23°C (PenG)

ND: not done

Table 2: Sequences and activities of lib1C<sub>4</sub> clones

Clones	Inserted sequence			Kcat (s <sup>-1</sup> ) <sup>a</sup>
FdBla	Val <sub>103</sub>	- - - - Glu <sub>104</sub> Tyr <sub>105</sub>	Ser <sub>106</sub>	ND
LibC4-11		Arg Phe Gly Asn Asp Trp (SEQ ID NO: 8)		159
LibC4-12		- - - - Trp Trp		ND
LibC4-13		- - Arg Ser His Trp (SEQ ID NO: 9)		ND
LibC4-14		- - - - Gln Trp		ND
LibC4-15		Asp Gln Met Gly Gly Gly (SEQ ID NO: 10)		ND
LibC4-16		Arg Ala Gly Ser Thr Trp (SEQ ID NO: 11)		64
LibC4-17		Lys Gly Gly Leu Glu Ser (SEQ ID NO: 12)		721
LibC4-18		- - - - Ser Asn		ND
LibC4-19		- - - - Glu Gly		ND

<sup>a</sup>kcats from phages produced at 23°C (PenG);

ND: not done

Table 3: Sequences and activities of lib1D<sub>2</sub> clones

Clones	Inserted sequence			Kcat (s <sup>-1</sup> ) <sup>a</sup>
FdBla	Leu <sub>102</sub>	--- Val <sub>103</sub> Glu <sub>104</sub> Tyr <sub>105</sub>	Ser <sub>106</sub>	ND
Lib1D2-02		--- Val Gly Gly		ND
Lib1D2-03		--- Val Thr Tyr		ND
Lib1D2-04		--- Gly Thr Trp		ND
Lib1D2-05		Leu Pro Asn Leu Asp Thr (SEQ ID NO: 13)		224
Lib1D2-06		--- Ile Ser Trp		ND
Lib1D2-07		Asn Arg Ser Gly Ser Trp (SEQ ID NO: 14)		2506
Lib1D2-08		Asp Val Ser Gly Gly His (SEQ ID NO: 15)		337
Lib1D2-09		Leu His Ser Gly Gly Trp (SEQ ID NO: 16)		ND
Lib1D2-10		Ser Arg Ala Gly Gly Tyr (SEQ ID NO: 17)		ND

<sup>a</sup> kcats from phages produced at 23°C (PenG)

ND: not done

Table 4: Sequences and activities of several clones from the lib3d library picked from among the 3% most active ones

Clones	Inserted sequence		Kcat (s <sup>-1</sup> ) <sup>a</sup>
FdBla	Ala <sub>270</sub>	- - - Thr <sub>271</sub> Met <sub>272</sub> Asp <sub>273</sub> Glu <sub>274</sub> Arg <sub>275</sub>	ND
Lib3-01		- - - Ser Met	1133
Lib3-02		- - Ala Thr Thr	203
Lib3-03		Thr Ala Lys Met Asp (SEQ ID NO: 18)	127
Lib3-04		Pro Thr Val Ser Met (SEQ ID NO: 19)	92
Lib3-05		Arg Gln Ser Thr Met (SEQ ID NO: 20)	48
Lib3-06		- - Asp Arg Ala	1.1
Lib3-07		Gly Arg Thr Thr Met (SEQ ID NO: 21)	44
Lib3-08		Ser Asp Gln Pro Leu (SEQ ID NO: 22)	140
Lib3-09		His Thr Ala Ser Met (SEQ ID NO: 23)	137
Lib3-10		- - - Asn Gly	278
Lib3-11		Lys Ser Val Gly Leu (SEQ ID NO: 24)	ND
Lib3-12		Ala Asn Ile Ser Leu (SEQ ID NO: 25)	ND
Lib3-13		- - - Asn Ile	ND
Lib3-14		Pro Val Ala Pro Ile (SEQ ID NO: 26)	ND
Lib3-15		Arg Pro Thr Thr Leu (SEQ ID NO: 27)	ND
Lib3-16		Pro Asn Ala Asn Met (SEQ ID NO: 28)	ND
Lib3-17		- - Ala Thr Thr	ND

<sup>a</sup> kcats from phages produced at 23°C (PenG)

ND: not done

Table 5: Sequences and activities of lib3f clones selected on 10  $\mu$ g ampicillin/ml at 37°C

Clones	Inserted sequence			Kcat (s <sup>-1</sup> ) <sup>a</sup>
FdBla	Ala <sub>270</sub>	----- Thr <sub>271</sub>	Met <sub>272</sub> Asp <sub>273</sub> Glu <sub>274</sub> Arg <sub>275</sub> (SEQ ID NO.: 40)	ND
Lib3-18		Ala Thr Ser Phe Ala Phe (SEQ ID NO: 29)		208
Lib3-19		Arg Arg Lys Gln Pro Thr (SEQ ID NO: 30)		32
Lib3-20		Thr Ala His Val Ala Ser (SEQ ID NO: 31)		99
Lib3-21		Thr Asn Lys Gln Pro Ser (SEQ ID NO: 32)		73
Lib3-22		Lys Ser Tyr Thr Pro Glu (SEQ ID NO: 33)	Gln	85
Lib3-23		Lys Trp Asn Tyr Thr Thr (SEQ ID NO: 34)		ND
Lib3-24		Gly Glu His Glu Ala Gly (SEQ ID NO: 35)		114
Lib3-25		Glu Glu Asn Gly Arg Pro (SEQ ID NO: 36)	Gln	100
Lib3-26		Gln Leu Gln Val Pro Pro (SEQ ID NO: 37)		186
Lib3-28		Ala Pro Gly Asn Asp Gly (SEQ ID NO: 38)		64
Lib3-29		Ala Gly Ala Thr Tyr Glu (SEQ ID NO: 39)		111

<sup>a</sup> kcats from phages produced at 23°C (PenG); ND: not done

Table 6: Sequences and activities of rec1 clones selected on 10 µg ampicillin/ml at 37°C

Clones	Inserted Sequence							Kcat(s <sup>-1</sup> ) <sup>a</sup>
FdBla	Leu <sub>102</sub>	---Val <sub>103</sub> Glu <sub>104</sub> Tyr <sub>105</sub> Glu Arg Ser Gly His Trp (SEQ ID NO: 41)	Ser <sub>106</sub>	---	Ala <sub>270</sub>	---Thr <sub>271</sub> -----Thr	Met <sub>372</sub>	ND
Rec1-01								145
Rec1-03		---Val Glu Tyr				Arg Thr Ala Lys Val Ser (SEQ ID NO. 44)		57
Rec1-04		---Val Thr Trp				Glu Lys Val Glu Pro Ser (SEQ ID NO. 45)		61
Rec1-05		---Val Leu Gly				-----His		145
Rec1-06		---Val Gln Gly				Thr Gly Val Tyr Pro Ser (SEQ ID NO. 46)		170
Rec1-07		---Cys Met Gly				Gln Gly Pro Trp Ala Ser (SEQ ID NO. 47)		380
Rec1-09*		---Ile Glu Gly				Ile Gly Asp Tyr Ser Lys (SEQ ID NO. 48)		251
Rec1-10		---Val Asp Trp				Thr Gly Asn Gln Ala Thr (SEQ ID NO. 49)		93
Rec1-11*		---Val Ser Gly				Ser Asn Gly Glu His Ser (SEQ ID NO. 50)		54
Rec1-12		Leu Ala Ser Gly Tyr (SEQ ID NO: 42)				Ser Gly His Glu Pro Thr (SEQ ID NO. 51)		139
Rec1-14		---Val Pro Tyr				Asp Ser Lys Glu Thr Ser (SEQ ID NO. 52)		304
Rec1-15*		---Val Arg Ser Gly Pro Trp (SEQ ID NO: 43)				Thr Ala Arg Trp Ala Asn (SEQ ID NO. 53)		72

*See cont 5.*

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Rec1-16		--Val Met Gly						Thr Ala Asn Glu His-Thr (SEQ ID NO. 54)		155
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\*kcats from phages produced at 23°C (PenG) ND: not done; \*clones containing an additional mutation (Arg<sub>275</sub><sup>1</sup>).

*B1*  
*Cont*

Table 8: Clones selected on psa 10.

Clones	Inserted Sequences		Kcat-psa66/ + psa66 (S <sup>-1</sup> )
	Val <sub>103</sub> Glu Tyr	Thr <sub>271</sub> Met	S = PenG
FdBl <sub>a</sub>			
P10Aj3	Library <sup>a</sup>		[psa10] = 3.3 10 <sup>-3</sup> M
P10Aj301	Val Glu Tyr	His Pro Gln Asn Asp Asp Met (SEQ ID NO: 58)	ND
P10Aj302	Val Glu Tyr	His Pro Gln Asn Asp Asp Met (SEQ ID NO: 60)	ND
P10Aj303	Val Glu Tyr	His Pro Gln Asn Asp Asp Met (SEQ ID NO: 61)	ND
P10Aj304	Val Glu Tyr	His Pro Gln Gly Asp Asn Met (SEQ ID NO: 62) His Pro Gln Gly Asp Ser Met (SEQ ID NO: 63)	ND
P10Aj305	Val Glu Tyr	His Pro Gln Asn Asp Asp Met (SEQ ID NO: 64)	ND
P10RB3	Library <sup>b</sup>		[psa10] = 3.3 10 <sup>-3</sup> M
P10RB311	Val Arg Tyr	Ser Asp Gly His Arg Leu Met (Arg <sub>275</sub> → Leu) (SEQ ID NO: 65)	ND
P10RB312	Val Lys Ser Gly Val Ala (SEQ ID NO: 55)	Ser Asp Gly His Arg Leu Met (Arg <sub>275</sub> → Leu) (SEQ ID NO: 66)	ND
P10RB313	Val Lys Ser Gly Asn Thr Trp (SEQ ID NO: 56)	Ser Asp Gly His Arg Leu Met (Arg <sub>275</sub> → Leu) (SEQ ID NO: 67)	ND
P10RB314	Val Asp Arg Thr Lys Gly Trp (SEQ ID NO: 57)	Ser Asp Gly His Arg Leu Met (Arg <sub>275</sub> → Leu) (SEQ ID NO: 68)	ND
P10RB315	Val Thr Gly Pro Asn Gly His (SEQ ID NO: 58)	Ser Asp Gly His Arg Leu Met (Arg <sub>275</sub> → Leu) (SEQ ID NO: 69)	ND



*lib3j and <sup>b</sup> rec<sup>ab</sup> phages from the third round of selection; \*kcats from phages produced at 23°C*

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Table 9: Clones Selected on psa66.

Clones	Inserted Sequence		Kcat- $\text{psa66}/(\text{psa66(s)}^2)$ ; %age inhibition			
	Val <sub>100</sub> Glu Tyr	Thr <sub>71</sub> Met	S = PenG	S = PADAC	S = Ceptar	S = Ceptar
FdBla						
P66A13	Library*		[psa66] = 3.3 10 <sup>-3</sup> M	[psa66] = 3.3 10 <sup>-3</sup> M		
P66A1306	Val Glu Tyr	Thr Pro Gly Ser Leu Gln Met (Arg <sub>375</sub> →Leu) (SEQ ID NO: 70)	ND	ND		
P66A1307	Val Glu Tyr	Ser Ala His Gln Asp Tyr Ile (Arg <sub>375</sub> →Leu) (SEQ ID NO: 71)	ND	42.4/42/4; 00%		
P66A1308	Val Glu Tyr	Thr Pro Gly Ser Leu Gln Met (Arg <sub>375</sub> →Leu) (SEQ ID NO: 72)	ND	ND		
P66A1309	Val Glu Tyr	Thr Pro Gly Ser Leu Gln Met (Arg <sub>375</sub> →Leu) (SEQ ID NO: 73)	ND	ND		
P66A1310	Val Glu Tyr	Thr Pro Gly Ser Leu Gln Met (Arg <sub>375</sub> →Leu) (SEQ ID NO: 74)	ND	ND		
P66RB3	Library*		[psa66] = 3.3 10 <sup>-3</sup> M 405/326; 20%	[psa66] = 3.3 10 <sup>-3</sup> M 23.8/14.2; 41%	[psa66] = 1.7 10 <sup>-4</sup> M ND	[psa66] = 1.7 10 <sup>-6</sup> M ND
P66RB316	Val Thr Gly	Asp Gly Ser Arg Ile Gln Met (Arg <sub>375</sub> →Leu) (SEQ ID NO: 75)	182/134; 26%	25.1/13/6; 46%	20.5/7.8; 62%	15.4/4.1; 73%
P66RB317	Val Lys Gly Gly His Gly Ala (SEQ ID NO: )	Thr Leu	ND	28.2/26.5; 06%	ND	ND

P66RB318	Val Val Gly	Asp Gly Ser Arg Ile Gln Met (Arg <sup>75</sup> →Leu) (SEQ ID NO: 76)	ND	28.6/11.9:58%	ND	13.8/5.8:58%	13.3/3.5:74%
P66RB319	Val Gln Gly	Asp Gly Ser Arg Ile Gln Met (Arg <sup>75</sup> →Leu) (SEQ ID NO: 77)	ND	47.4/32.6:31%	ND	ND	ND
P66RB321	ND	ND	ND	17.2/09.3:46%	ND	ND	ND
P66RB322	ND	ND	ND	27.2/23.8:13%	ND	ND	ND
P66RB323	ND	ND	ND	19.0/13.2:31%	ND	ND	ND
P66RB324	ND	ND	ND	22.4/15.2:32%	ND	ND	ND
P66RB325	ND	ND	ND	21.6/14.9:31%	ND	ND	ND
P66RB326	ND	ND	ND	19.6/19.2:02%	ND	ND	ND
P66RB327	ND	ND	ND	20.5/19.6:04%	ND	ND	ND
P66RB328	ND	ND	ND	29.2/15.8:46%	ND	ND	ND
P66RB329	ND	ND	ND	26.3/14.3:46%	ND	ND	ND
P66RB330	ND	ND	6015/4273:29%	647/444:31%	ND	33.5/46.2:-32%	33.2/54.7:-62%
P66RB331	ND	ND	ND	25.7/14.1:45%	ND	ND	ND
P66RB332	ND	ND	ND	25.2/23.5:09%	ND	ND	ND

lib31 and Rec4b phages from the third round of selection  
Kcats from phages produced at 23°C--.